

5. List the **elements** in each set below and determine its **cardinality**.

(a) $A = \{1, 2, \{a, b, c\}, \emptyset\}$

(b) $A = \{x \in R : x^3 - x^2 = 6x\}$

(c) $A = \{x \in Z : x^3 - x^2 = 6x\}$

6. Write each set in **set-builder** notation.

(a) The half-open interval of the real line: $[2, 8)$.

(b) $\{-6, -3, 0, 3, 6, 9, 12, \dots\}$ (Assume the pattern continues.)

(c) The set of points in the xy -plane that lie on the graph $y = x^2 + 1$.

7. Sketch $[0, 1]^3$